

REMARKS

Claims 1, 2, 4-14, 16 and 17 are now pending in the application. Claims 1, 6, 11, and 17 have been amended. Claims 1, 6, 11, and 17 have been amended to remove the limitation of the blowing agent gas being released into an ambient environment of the forming tool cavity. Claims 11 and 17 have been amended to recite that both the superplastic or quick plastic formation and the foaming of the metal foam precursor occur in the forming tool cavity. Support for the amendments is found throughout the Specification, at least at paragraphs [0018], [0019], and [0023]. Support for the amendments and specific remarks in support thereof are detailed later herein. The Examiner is respectfully requested to consider the remarks contained herein.

REJECTION UNDER 35 U.S.C. § 112

Claims 1-2, 4-14, and 16-17 stand rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement. Claims 1-2, 4-14, and 16-17 stand rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Applicants have amended independent claims 1, 6, 11, and 17 to remove the limitation of the blowing agent gas being released into an ambient environment of the forming tool cavity. Applicants believe that these amendments address the Examiner's concern regarding support for the claims. Reconsideration and removal of the rejection are respectfully requested.

DOUBLE PATENTING REJECTION

Claims 1-2, 4-14, and 16-17 stand rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over Claims 1-11 and 19-24 of Morales, et al. (U.S. Patent No. 7,100,259) in view of Rashid (U.S. Patent No. 6,253,588) and Seeliger (U.S. Patent 6,090,232). Applicants respectfully traverse the characterization that there is no patentable distinction between Applicants' claimed invention and the cited references.

Pursuant to 37 C.F.R. §1.321 and §3.73(b), Applicant is filing herewith a Terminal Disclaimer to disclaim any term of this application's granted patent that continues after December 17, 2023. Please take the appropriate fee under 37 C.F.R. §1.20(d) from Deposit Account No. 07-0960.

REJECTION UNDER 35 U.S.C. § 103

Claims 1-2, 4-14, and 16 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Seeliger (U.S. Pat. No. 6,090,232) in view of Rashid (U.S. Pat. No. 6,253,588). This rejection is respectfully traversed.

Applicants assert that while Rashid and Seeliger disclose the formation of stamped body panels, there is neither motivation nor teachings that super or quick plastic formation is even possible with the addition of a metal foam precursor coupled to the sheet metal. The processes and parameters disclosed in Rashid are specific to quick plastic formation which is highly dependent on materials selected, air flow across the metal sheet, pressure applied to the metal sheet, and other processing variables. Seeliger, on the other hand, uses a completely different, yet highly specific, multiple

mold process to first shape the component and then to foam the component. There is clearly no teaching that the formation of a metal foam as taught in Seeliger is desirable or even possible with the Rashid processes. For these reasons, Applicants respectfully assert that one skilled in the art would not combine the teachings of Rashid and Seeliger and arrive at Applicants' invention as defined by the independent claims is patentable over the cited references. Reconsideration and removal of the rejection are respectfully requested.

Claim 17 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Seeliger in view of Baumeister (U.S. Pat. No. 5,151,246) and further in view of Rashid. This rejection is respectfully traversed.

Applicants' method claim 17 (and also claim 11) as amended provides that the superelastic or quick plastic formation and the subsequent foaming are all performed in the same forming tool cavity. As stated by Applicants at Paragraph [0023], the present teachings provide "a unified operation for making composite structures..."

Seeliger discloses preparing the component in a multi-step process using two different molds. First, an "essentially two-dimensional, metallic composite material" is prepared. (Column 3, lines 6 through 10). The flat metal piece is then cut into a suitable size with a saw and then placed in a "mold 8, used for molding the composite material 6 into a semi-finished molded product 7..." (Column 3, lines 11 through 21). Next, the "semi-finished molded product 7 is placed in a foaming mold 9, and the foaming is effected in situ in the foaming mold 9." (Column 3, lines 42 through 44). Accordingly, Seeliger teaches molding the component in a first mold 8 and then transferring the molded component into a separate, foaming mold 9.

The Examiner cites Baumeister to supply the missing information regarding foaming and titanium hydride to the combination of Seeliger and Rashid. Nonetheless, the addition of a teaching of titanium hydride does not amount to a teaching of the unified operation of forming the curvilinear metal sheet and foam composite in a single forming tool cavity, as claimed by Applicants. Because the references do not teach or suggest each and every element of Applicants' claimed invention as amended, the §103 rejection is improper for the method claim 17 and for the method claim 11, and all dependents therefrom. Reconsideration and removal of the rejection are respectfully requested.

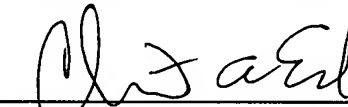
CONCLUSION

It is believed that all of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot. Applicants therefore respectfully request that the Examiner reconsider and withdraw all presently outstanding rejections. It is believed that a full and complete response has been made to the outstanding Office Action and the present application is in condition for allowance. Thus, prompt and favorable consideration of this amendment is respectfully requested. If the Examiner believes that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at (248) 641-1600.

Respectfully submitted,

Dated: February 12, 2007

By: _____



Christopher A. Eusebi
Reg. No. 44,672

CORRESPONDENCE ADDRESS:

Kathryn A. Marra
General Motors Corporation
Legal Staff – Mail Code 482-C23-B21
PO Box 300 – 300 Renaissance Center
Detroit, MI 48265-3000
Ph: 313-665-4708
Fax: 313-665-4976

CAE/SDJ/tp